

NEW SPECIES OF ODONATA FROM THE SOUTH-
WESTERN UNITED STATES.

PART II.

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The following undescribed species have been in the writer's hands for some time awaiting that time when he had hoped to be able to write a more comprehensive paper covering this region.

I wish to thank Dr. P. P. Calvert for the privilege of describing the *Aeschna* from his collection, and Prof. S. J. Hunter for the privilege of describing the material from the Snow collection.

***Erpetogomphus lampropeltis*, n. sp.**

Holotype.—Male caught by the writer on Sespe Creek, Fillmore, Ventura Co., California, Aug. 7, 1915, and now in the U. S. National Museum.

Paratype.—Female *not in copula* with the holotype but with the same data, now in the U. S. National Museum.

Male.—Length of abdomen 30 mm.; appendages 2 mm. Length of hind wing 25 mm.

Colour.—Face pale gray, with a brown line along the labral suture and one on the fronto-nasal suture. Vertex brown; antennae black ringed with yellow. Rear of head mottled with gray and brown. Eyes bluish gray above shading into gray below.

Thorax with the dark markings dark brown, the pale areas gray as follows: Dorsum brown with the middorsal and mesostigmal keels gray. Antealar ridges brown. A narrow ($\frac{2}{3}$ mm. wide) antehumeral pale stripe sloping outwards from the antealar sinus. A second hair line of gray just anterior to the humeral suture, this line widened above to a triangular spot. Side of thorax gray with an irregular brown line on first lateral suture ($\frac{1}{2}$ mm. wide), and a similar brown line on second lateral suture. These are connected at about one-fourth their length from the alar ridge. Wings hyaline with black pterostigmata. Legs with coxæ and femora gray; the latter with a broad, dorsal brown stripe; tibiæ and tarsi black.

Abdomen with the pale markings on segs. 1-7 gray (almost white) and on segs. 8-10 an intense and vivid orange brown. September, 1918

All dark markings intense black except on segs. 1 and 2, where they are brown. Seg. 1 brown with a large gray spot on its lower posterior angle. Seg. 2 brown with a middorsal pale stripe, the auricle and the lower posterior angle pale. Seg. 3 pale with its side nearly occupied by an anterior and a posterior black spot. Segs. 4-6 black with a pale band on the basal third. Seg. 7 similar but the pale band occupying the basal half. In life this band is very conspicuous because of the great amount of black before and after it. Segs. 8 and 9 with the dorsum black, the apical edge and the lower half of sides orange. Seg. 10 orange, browner at its base. Appendages yellow.

The appendages are like those of *crotalinus* and *designatus*. The tips of the dorsal pair are not as slender as in *designatus*, and the dorsal angle or hump is near the middle of the appendage. The inferior appendage is as in *designatus*.

Female.—Abdomen with appendages 36 mm. long; hind wing 30 mm.

Colour.—As in male but with the brown on segs. 1 and 2 reduced to an apical ring and a broad, lateral stripe. Segs. 3-7 each with a broad, middorsal, lanceolate, pale spot and a pale spot on the lower edge of the side. Segs. 8-10 as in the male.

The vulvar lamina is similar to that of *designatus* but the lateral lobes are broadly triangular, two-fifths as long as seg. 9, and terminate in acute points caudad.

The nearest relative seems to be *designatus*.

This is named after the handsome black-and-white banded king snake of California.

Æschna arida, n. sp.

Holotype.—Male, from Fort Wingate, New Mexico, and now in the collection of Dr. Calvert.

Paratype.—Female, from "Oak Creek Canyon, Arizona, 6,000 ft., Aug., F. H. Snow." This is one of a pair in the Snow collection of Kansas University, at Lawrence, Kansas.

The male of this pair in the Snow collection bears the same pin label as the paratype, and is referred to in the description as the "second male."

Male.—Colour; face greenish, labrum with a black line across its articulation; a narrow fronto-nasal line. T-mark conspicuous,

its stem triangular. Frontal vesicle edged with yellowish above. Occiput small and pale, rear of head black, eyes brown (dried material) with a conspicuous dash.

Thorax brown. Dorsal stripes 1 mm. broad; enlarged at the upper end. Lateral stripes yellowish, (probably greenish in life with yellow ends). Both are broad and straight; the anterior being slightly notched at the middle of its anterior edge and narrower from there to the upper end. Anterior stripe 1.5 mm. wide below, slightly narrower in its upper half; the posterior stripe nearly 2 mm. wide.

Each lateral stripe bordered on both edges of its entire length with a wide band of dark brown. Wings hyaline, stigmata 4 mm. long in type; 3 mm. in second male, dark brown above, yellowish below. Legs black with the bases of the femora dark brown.

Abdomen brown on segs. 1-3, black on 4-10 with blue markings. The figure shows the shape of these.

M D present on segs. 3-7, P D is very large and roughly triangular, fusing broadly below with P L. M L is present on segs. 3-8. A L present on segs. 2-8. A narrow, apical band on seg. 10. Ventral surface probably black.

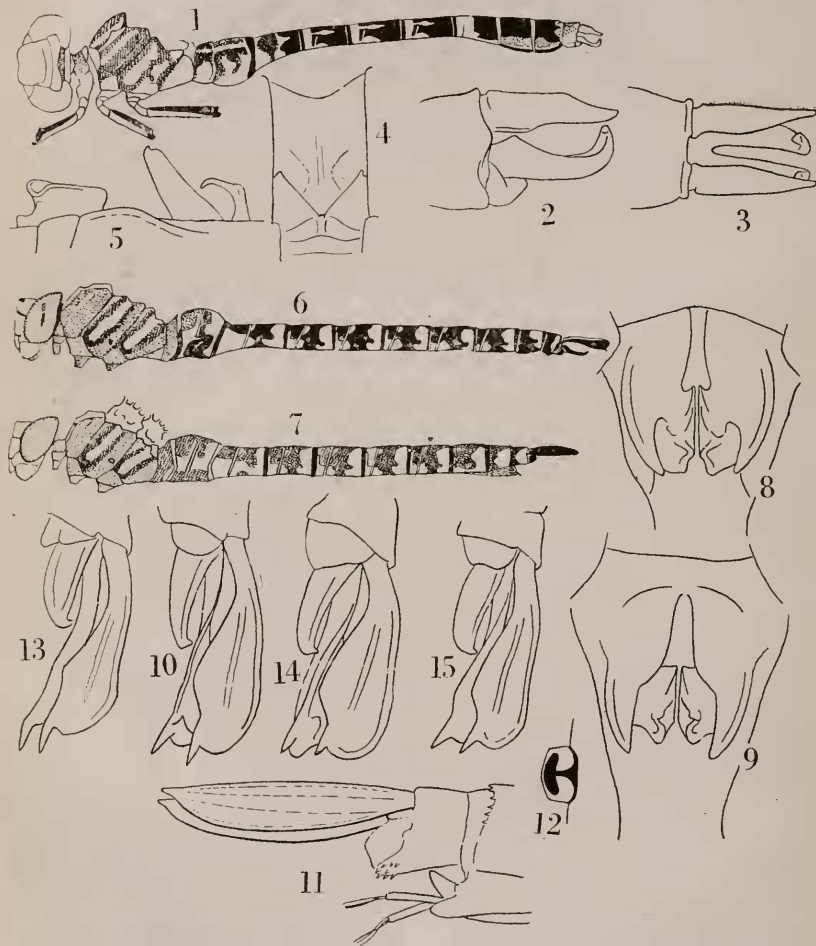
Female.—Colour—as in the male but with the brown of the thorax paler. Veins of wings brown. Abdomen brown, becoming darker caudad.

This species is close to *constricta*, *palmata* and *walkeri*. See figs. 6-15. The male appendages are broad as in *walkeri*, but have the long terminal spines of *constricta*. The hamules show few characters different from those of the above species. In the type male these are thrown caudad with the extruded penis, hence the difference between the figs. 8 and 9. In colour the male differs from its relatives in the broad, lateral stripes and the wide, dark borders to these. From *walkeri* in the presence of M D. From *constricta* in the presence of P L on segs. 5-8. From *palmata* in the greater amount of blue on the abdomen. The female is easily distinguished by the appendages which are narrow, heavy and nearly straight on the dorsal edge.

The name refers to the desert region in which are the more humid mountains from which the types have come.

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PLATE VIII



NEW ODONATA FROM THE SOUTHWESTERN UNITED STATES.

See p. 297.

Figs. 1—5. *Erpetogomphus lampropellis*. 1. Male colour pattern. 2—3. Male appendages 4. Vulva. 5. Male second segment.

Figs. 6—12. *Aeschna arida*. 6. Male colour pattern. 7. Female colour pattern. 8. Hamules of "second male". 9. Hamules of Holotype. 10. Appendages of male. 11. Appendages of Paratype. 13. *Aeschna constricta*. 14. *Aeschna walkeri*. 15. *Aeschna palmata*.